

VARIABLE-GAIN LOW NOISE AMPLIFIER TO REDUCE LINEARITY REQUIREMENTS ON A RADIO RECEIVER

ABSTRACT OF THE INVENTION

5 Variable gain low noise amplifier (LNA) system to reduce linearity requirements on a radio receiver. In the receiver, the LNA is coupled to receive an RF signal and produce an amplified signal at an LNA output. The receiver also comprises a VGA coupled to the LNA output to receive the amplified signal and produce a VGA output to downstream components of the receiver. The receiver also comprises a control network
10 coupled to the LNA and the VGA. The control network operates to adjust gain factors of the continuously variable LNA and the VGA based on a received power indicator of the RF signal, so that a signal-to-noise ratio required for demodulation of the RF signal is met with a selected margin and the linearity requirements of the receiver are reduced.

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